WHAT WE'RE READING

A Sampling of Highlights from the Literature

CANCER IMMUNOLOGY MINIATURES

In Human Visualization of Ibrutinib-Induced CLL Compartment Shift
Ibrutinib is used to treat CLL. Labeling and imaging 9 patients with CLL show that in response to ibrutinib treatment, CXCR4⁺ CLL cells shift from lymph nodes and bone marrow to peripheral blood and the splenic cavernous system.

RESEARCH ARTICLES

Distinctive Subpopulations of Stromal Cells Are Present in Human Lymph Nodes Infiltrated with Melanoma
Metastases in lymph nodes correlate to poor patient prognoses, with stromal cells in these lymph nodes contributing to tumor progression. In melanoma-invaded lymph nodes, two distinct subsets of stromal cells are identified and characterized.

The Mincle/Syk/NF-κB Signaling Circuit Is Essential for Maintaining the Protumoral Activities of Tumor-Associated Macrophages
Chunjie Li, Vivian Weiwen Xue, Qing-Ming Wang, Guang-Yu Lian, Xiao-Ru Huang, Tin-Lap Lee, Ka-Fai To, Patrick Ming-Kuen Tang, and Hui-Yao Lan
Macrophages in tumors can promote or hinder cancer progression. The expression of the pattern-recognition receptor Mincle on tumor-associated macrophages (TAMs) leads to the activation of the Syk/NF-κB pathway and subsequent establishment of protumoral TAMs.

Identification of the Cryptic HLA-I Immunopeptidome
Florian Erhard, Lars Dölken, Bastian Schilling, and Andreas Schlosser
A computational approach shows cryptic peptides as an abundant class of epitopes in different tumor samples. This approach can potentially be used to elucidate complete HLA-I immunopeptidomes and aid in the discovery of targets for cancer immunotherapy.

Inflammation-Induced Abnormal Expression of Self-molecules on Epithelial Cells: Targets for Tumor Immunoprevention
Camille Jacqueline, Amanda Lee, Nolan Frey, Jonathan S. Minden, and Olivera J. Finn
Exposure of normal epithelial cells to proinflammatory cytokines leads to expression of disease-associated antigens that are later expressed on tumor cells as tumor-associated antigens. Data suggest that immune memory against them may strengthen tumor immunosurveillance.

Immunotargeting of the xCT Cystine/Glutamate Antiporter Potentiates the Efficacy of HER2-Targeted Immunotherapies in Breast Cancer
Laura Conti, Elisabetta Bolli, Antonino Di Lorenzo, Valentina Franceschi, Francesca Macchi, Federica Riccardo, Roberto Ruiu, Luca Russo, Elena Quaglino, Gaetano Donofrio, and Federica Cavallo
Despite the efficacy of anti-HER2 in HER2⁺ breast cancer patients, many patients develop recurrent disease. Targeting cancer stem cells with xCT vaccination improves the efficacy of anti-HER2 by improving antibody-dependent cell-mediated cytotoxicity and T-cell responses.

Radiotherapy Cooperates with IL15 to Induce Antitumor Immune Responses
Karsten A. Pilones, Maud Charpentier, Elena Garcia-Martinez, Camille Davaud, Jeffrey Kraynak, Joseph A. Yankalayil, Silvia C. Formenti, and Sandra Demaria
IL15 can promote and sustain antitumor responses and is being tested in the clinic. Here, combination IL15 and tumor-targeted radiotherapy is shown to have enhancing effects on immune cells, which results in the induction of durable antitumor responses.
The Expression of Adenosine A2B Receptor on Antigen-Presenting Cells Suppresses CD8+ T-cell Responses and Promotes Tumor Growth

Siqi Chen, Imran Akdemir, Jie Fan, Joel Linden, Bin Zhang, and Caglar Cekic

Adenosine has pleiotropic effects in the tumor microenvironment. Adenosine A2B receptor expression on immunosuppressive antigen-presenting cells promotes tumor growth by inhibiting antitumor T cells. Blocking A2B receptor in combination with adoptive cell therapy induces profound antitumor effects.

Mammalian SWI/SNF Complex Genomic Alterations and Immune Checkpoint Blockade in Solid Tumors


Mammalian SWI/SNF complex mutations are evaluated in immune checkpoint inhibitor (ICI)–treated patients with multiple solid tumor types. No association with clinical outcome is found, providing evidence that these mutations should not be used as biomarkers of ICI response.

ASC Modulates CTL Cytotoxicity and Transplant Outcome Independent of the Inflammasome


The adaptor protein ASC is a key component of the inflammasome complex. ASC-deficient CD8+ T cells have impaired capacity to induce graft-versus-host disease and graft rejection and can control leukemia burden over time.

Paclitaxel Induces Immunogenic Cell Death in Ovarian Cancer via TLR4/IKK2/SNARE-Dependent Exocytosis

Tat San Lau, Loucia Kit Ying Chan, Gene Chi Wai Man, Chi Hang Wong, Jacqueline Ho Sze Lee, So Fan Yim, Tak Hong Cheung, Iain A. McNeish, and Joseph Kwong

The standard of care for ovarian cancer has remained unchanged for almost 30 years, thus understanding the therapeutic mechanism of action might improve future therapeutic options. Paclitaxel induces immunogenic cell death via TLR4, leading to antitumor immunity.